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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/188,399	11/06/1998	MARK BODDY	256.029US1	4315

128 7590 11/25/2002

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EXAMINER

GARLAND, STEVEN R

ART UNIT	PAPER NUMBER
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2125

14

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/188,399

Applicant(s)

BODDY ET AL.

Examiner

Steven R Garland

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2002 and 12 September 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19, 27-29 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-19, 27-29 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/24/02 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3,5-8,10,11,13-19, 27-29, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Goldman et al. article "A Constraint-Based-

Scheduler for Batch Manufacturing" ( copy supplied by applicant ) in view of Tanaka 5,353,229.

Goldman et al. teaches constraint based scheduling using discrete and continuous constraints, determining infeasible schedules, breaking tasks into activities and sub activities, use of deadlines, identifying required resources, dynamic backtracking, schedule modification, use of solver engines, etc. See pages 49-56 and note figures 1 and 2. Further Goldman teaches resizing and use of constraints in figure A, and pages 52-55.

Goldman however does not specifically teach that the continuous constraints are related to other variables by linear mathematical relationships

Tanaka teaches expressing constraints as linear combinations of variables. See col. 1, lines 39-55.

It would have been obvious to one of ordinary skill in the art to modify Goldman in view of Tanaka and express the continuous constraints by a linear mathematical formula so that the constraints can be accurately related to the variables and also allow ease in computation.

Goldman et al. and Tanaka however do not specifically teach storing the software on a medium.

It would have been obvious to one of ordinary skill in the art to modify Goldman and Tanaka to store the software on a medium as a backup copy in case the system crashes and also allow for easily loading the software on system startup.

5. Claims 1-11, 14,15,19,27-29,33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zweben et al. 6,216,109 .

Zweben et al. teaches constraint based scheduling using continuous and discrete constraints, use of a memory to store the software, use of deadlines and start and end times, splitting tasks into subtasks, identifying required resources to perform a task, resource balancing, identifying infeasibilities, schedule modification, etc. See the abstract, figures, col. 1, lines 39-65; col. 2, lines 1-6; col. 9, lines 30-47; col. 14, lines 6-42; col. 15, line 33 to col. 16, line 61; col. 25, line 45 to col. 26, line 58; and the claims.

Zweben however does not specifically teach that the continuous constraints are related to other variables by linear mathematical relationships

Tanaka teaches expressing constraints as linear combinations of variables. See col. 1, lines 39-55.

It would have been obvious to one of ordinary skill in the art to modify Zweben in view of Tanaka and express the continuous constraints by a linear mathematical formula so that the constraints can be accurately related to the variables and also allow ease in computation.

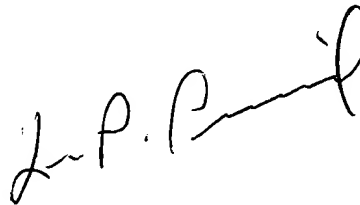
6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R Garland whose telephone number is 703-305-9759. The examiner can normally be reached on Monday –Thursday from 6:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239; for after final faxes 703-308-7238; and for non official faxes 703-746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-3900.

*5/10 U*  
Steven R Garland  
Examiner  
Art Unit 2125



**LEO PICARD**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**